

Notice of Allowability

Application No.

10/667,758

Examiner

Mark Ruthkosky

Applicant(s)

HAMADA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/3/2006.
2. ☒ The allowed claim(s) is/are 1,4 and 5.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: 2002-274801.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

MARK RUTHKOSKY
PRIMARY EXAMINER
Mark Ruthkosky 10.11.06

DETAILED ACTION

Response to Amendment

Applicant's after-final amendment filed 10/3/2006 has been entered into the file.

Applicant has amended the claims to include allowable subject matter in the independent claim.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 9/20/2002. It is noted, however, that applicant has not filed a certified copy of the JP 2002-274801 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

The rejection of claims 1, 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Yamane et al. (US 6,335,116) in view of Linden, D.R. (Handbook of Batteries) has been overcome by applicant's amendment.

The rejection of claims 1, 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Kouzu et al. (US 6,211,646) in view of Linden, D.R. (Handbook of Batteries) has been overcome by applicant's amendment.

Allowable Subject Matter

Claims 1, 4 and 5 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach a battery pack including a plurality of battery modules arranged in parallel, each of said battery modules comprising a plurality of sealed rechargeable batteries arranged in a row and integrally connected in series said sealed rechargeable battery having a metal case; and a pair of holding brackets for holding both ends of said battery modules in a direction perpendicular to the parallel direction of said battery modules, wherein the holding brackets that are each provided with a ring-shaped protrusive wall into which said ends of said battery modules are fitted, said ring-shaped protrusive walls slide in both ends of said tubular cover, a slit is formed in said holding brackets in such a position as to correspond to said cooling space between the battery modules, and a fan is provided in the outer surface of at least one of said holding brackets. As claim 5 depends from claim 3, this claims is allowable by the same reasoning.

The most pertinent prior art has been presented. Yamane et al. (US 6,335,116) teaches a battery pack comprising a plurality of battery modules arranged in parallel, each of said battery modules comprising a plurality of sealed rechargeable batteries arranged in a row and integrally connected in series said sealed rechargeable battery having a metal case. The enclosure includes a pair of holding brackets for holding both ends of said battery modules in a direction perpendicular to the parallel direction of said battery modules. Figure 1 teaches a tubular cover surrounding the periphery of the plurality of battery modules. Other figures teach a variety of shapes for the tubular cover (figs. 1-10.) A coolant supply device is shown in figures 1-10. The individual rechargeable batteries include round or square prismatic shaped cases. The square shaped batteries include features, such as the corners, that promote cooling (col. 6, lines 10-35.) The battery pack casing includes turbulence altering protrusions in order to promote airflow

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turbulence. The reference does not teach a battery pack that includes an enclosure with a pair of holding brackets that are each provided with a ring-shaped protrusive wall into which said ends of said battery modules are fitted, said ring-shaped protrusive walls slide in both ends of said tubular cover, a slit is formed in said holding brackets in such a position as to correspond to said cooling space between the battery modules, and a fan is provided in the outer surface of at least one of said holding brackets.

In addition to Yamane et al., as applied, Kouzu et al. (US 6,211,646) teaches an end plate and a bracket system used in a battery unit wherein ring-shaped side walls are included in brackets the form the casing. The reference does not teach that the ring-shaped protrusive walls slide in both ends of said tubular cover, a slit is formed in said holding brackets in such a position as to correspond to said cooling space between the battery modules, and a fan is provided in the outer surface of at least one of said holding brackets. Hamada et al. (US 6,555,264) teaches a battery module with a plurality of cells connected in series, and with protrusions that allow for airflow through the cell to cool the batteries. The reference does not teach that the ring-shaped protrusive walls slide in both ends of said tubular cover, a slit is formed in said holding brackets in such a position as to correspond to said cooling space between the battery modules, and a fan is provided in the outer surface of at least one of said holding brackets. As the prior art does not teach or suggest the invention as claimed, the claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

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10-11-06